

Name:

Date:

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PART A In the space on the left, write the letter of the term or phrase which **best** completes the statement or answers the question (1 mark each).

- _____ 1. The largest divisions of the biosphere are called ...
 - a. biomes
 - b. habitats
 - c. continents
 - d. ecosystems

- _____ 2. What is the best indicator of the health of an ecosystem?
 - a. plant life
 - b. biodiversity
 - c. animal life
 - d. biotic conditions

- _____ 3. Cellular respiration occurs in ...
 - a. plants only.
 - b. animals only.
 - c. both plants and animals.
 - d. neither plants nor animals.

- _____ 4. The largest store of nitrogen is in the ...
 - a. Earth
 - b. atmosphere
 - c. ocean
 - d. lakes and rivers

- _____ 5. The removal by water of substances that have dissolved in moist soil is called ...
 - a. run-off
 - b. sedimentation
 - c. leaching
 - d. eutrophication

- _____ 6. Which of the following is formed as a product of nitrification?
 - a. nitrogen
 - b. ammonium
 - c. nitrite
 - d. nitrate

- ___ 7. Primary succession begins with a(n) ...
 - a. pioneer species
 - b. forest fire
 - c. explosion
 - d. flood

- ___ 8. A new species developing from an existing species is called ...
 - a. natural selection
 - b. ecological succession
 - c. competition
 - d. adaptive radiation

- ___ 9. The Earth experiences seasons due to ...
 - a. ocean currents
 - b. the Earth's tilt
 - c. the Earth's shape
 - d. elevation

- ___ 10. Climatographs show an area's average ...
 - a. sunlight and temperature
 - b. precipitation and sunlight
 - c. precipitation and temperature
 - d. sunlight and nutrients

PART B In the space provided mark each of the following as true or false. (1 mark each)

- ___ 1. Oceans release absorbed solar energy slower than does land.
- ___ 2. Tundra biomes contain many conifers.
- ___ 3. Biodegradation is the action of living things breaking down dead organisms.
- ___ 4. Nitrogen is an important component of DNA.
- ___ 5. Extirpation results in the loss of a species on Earth.
- ___ 6. Primary succession never leads to a climax community.
- ___ 7. Producers convert nitrogen gas into ammonium during the decomposition process.
- ___ 8. Phosphate is released by the process of weathering.
- ___ 9. Phosphorous is found in the atmosphere.
- ___ 10. Burning fossil fuels reintroduces previously trapped phosphorous back into the cycle.

PART C In the space provided, match each term or phrase with the best definition. (1 mark each)

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|-----------------------------|---|
| ___ 1. Anaerobic | A. Process that releases carbon dioxide back into atmosphere. |
| ___ 2. Nitrification | B. Trap and absorb thermal energy in the atmosphere. |
| ___ 3. Greenhouse gas | C. The overall role of an organism in a community. |
| ___ 4. Aerobic | D. Make phosphate more readily available to plants. |
| ___ 5. Photosynthesis | E. Without oxygen. |
| ___ 6. Nutrients | F. Process that produces carbohydrates and oxygen. |
| ___ 7. Niche | G. Process in which ammonium is converted into nitrate. |
| ___ 8. Cellular respiration | H. Process in which nitrogen is returned to the atmosphere. |
| ___ 9. Mycorrhizae | I. Substances that are required for energy, growth, or maintenance. |
| ___ 10. Denitrification | J. With oxygen. |

PART D Each of the following questions requires a short answer.

1. Describe the process of photosynthesis. (5 marks)

2. How do human activities affect the nitrogen cycle? (5 marks)

3. Name and describe the location, climate, physical features, and the plant and animal adaptations of ***either*** the tundra or boreal forest biomes found in Canada. (5 marks)

4. Name the three nutrient cycles. (3 marks)

5. Name three human activities that affect the carbon cycle. (3 marks)

6. How do changes in the nutrient cycles affect biodiversity? (3 marks)

7. How does temperature change with latitude? (3 marks)

8. Why is elevation important in determining the characteristics of biomes? (3 marks)